

California GARDEN

FORTY-SIXTH YEAR

WINTER, 1955

VOLUME 46, NO. 4



The Old Point Loma Lighthouse was landscaped by Kate Sessions in 1935. Improvements will soon be under way which when completed will provide 3 acres of parking and 2 1/2 acres of landscaping. Plant material will consist primarily of California natives.

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CALIFORNIA GARDEN

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PARK ADMINISTRATION BUILDING
BALBOA PARK

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Calendar of Events

November 1 8 p.m.

Floral Building. Hal Johnson, of Johnson Cactus Gardens, Paramount, California. Subject: Succulents.

December 3 and 4

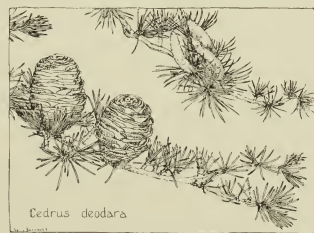
Christmas House Tour. Mrs. Samuel Durr, Chairman; Mrs. John Wimmer, Co-Chairman.

December 13 8 p.m.

Christmas Party. W. Allen Perry on "Christmas Greens."

January 17 8 p.m.

Paul Popejoy: Trip Through Gardens and Everglades of Florida, illustrated.



STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) of CALIFORNIA GARDEN published Quarterly at San Diego, California for Winter, 1955. Publisher: San Diego Floral Association, Balboa Park, San Diego, California. Editor: Alice M. Clark.

Garden Clubs — Notice

Affiliate membership in the San Diego Floral Association is available to all garden clubs within the city limits of San Diego. Annual dues of \$10.00 entitles an affiliate to representation on the executive board of the Floral Association; two subscriptions to California Garden, and week-end flower shows in the Floral Building. An additional fee of \$15.00, for the building maintenance fund, entitles an organization to the use of the building for meetings and to the use of another building in the park for a flower show. Garden clubs interested are asked to write a letter petitioning affiliate membership.

Subscriptions to California Garden, \$2.00 per year; foreign countries and Canada \$2.25. California Garden is on the list of publications authorized by the San Diego Retail Merchants Association. Manuscripts submitted for publication will receive prompt attention. Advertising rates on request.

Wanted: Back issues of California Garden from 1909 to 1916 and Spring, 1952. Please send to Miss Alice M. Greer for files.

Entered as second-class matter December 8, 1910, at the Post Office at San Diego, California, under the Act of March 3, 1879.

Membership in the San Diego Floral Association includes a subscription to California Garden. Classification of memberships: Annual, \$3.00; Family, \$5.00; Sustaining, \$5.00; and Contributing, \$25.00. Memberships and gifts are deductible from income tax.

California Garden

FORTY-SIXTH YEAR

WINTER, 1955

VOL. 46, NO. 4

The sunset of November 15, 1855 was tagged by the first beam from the Point Loma Lighthouse . . . "a fixed white light of the third order of Fresnel." In the hundred years since, there has been considerable change on this Point which first gained historical significance as the site of the discovery of California by Cabrillo. The changes include the construc-

tion of the lower light, increase in candlepower, replacement of Keepers, the end of hauling water in 50-gallon barrels, and the designation of the Old Lighthouse as a National Monument under the supervision of the National Park Service.

Two things have not changed: the Lamp and the Chaparral. The lenses which were brought from

the laboratory of Le Paute in Paris a hundred years ago are still in use. In the article following, Mr. Farrar, assistant to Donald M. Robinson, superintendent at the Cabrillo National Monument, takes you on a tour of the plants which grew near the Old Lighthouse a hundred years ago. And if you will look today, you will find them growing there still.

Garden for An Old Lighthouse

LLOYD J. FARRAR

We are seated in the front room of the lighthouse. It is a warm spring day and in our hands is a cooling drink that tastes like lemonade, but isn't. This is a drink made from the berries of the Lemon Ade Bush (*Rhus integrifolia*) which grows just below the house.

The Spanish wife of the lighthouse keeper invites us to walk with her to her garden about a mile away. As we start we notice a strong pungent odor in the air. "Sage brush," she smiles. *Artemisia californica* is a grayish shrub that grows to about four feet in height. The leaves are parted and the plant is sometimes called Old Man, because of the way it bends over.

We come upon some bushes that are about eight feet tall which she calls scrub oak (*Quercus dumosa*). The branches are tough and the leaves are irregularly toothed. As we skirt around the scrub oak, we notice a reddish brown bell-type flower that is

growing amongst some rocks. "That's Live-For-Ever." (*Dudleya lanceolata*).

"The little yellow flowers growing near it are Deer Weed. (*Lotus scoparius*). You can tell this flower by its long slender branches." She bent down and broke off a flower that had gray green leaves and a dirty-white flower. There were large seed pods on it. "Locoweed. (*Astragalus*). We must be careful not to let the cattle eat it. Very poisonous."

As we walk on we notice some beautiful trees with red leaves and white blossoms. "Laurel Leaved Sumac." (*Rhus laurina*). It seems that they are susceptible to frost and she doesn't think they are very pretty when the flowers turn black. We mention the quantity of Greasewood growing all about us. "Yes, sometimes it is called Chamise." (*Adenostoma fasciculatum*).

We approach her garden and notice some shrubs about four feet high with yellow showy flow-

ers. The flowers have an unpleasant odor. "Bladder-pod or Burrofat. Whichever you wish. (*Isomeris aborea*). The Indians ate the flower. The masses of white blossoms just beyond are Lady Fingers or Mission Lettuce. (*Stylrophyllum edulis*). Those long slender succulent leaves are edible also, but not pleasing."

Inside her garden there is a profusion of geraniums. There is also Spanish Bayonet (*Yucca whipplei*), Beaver-tail Cactus (*Opuntia basilaris*), Torrey Pines (*Pinus torreyana*), Mountain Lilac (*Ceanothus austromontanus*), and Coast Lilac (*Ceanothus spinosus*). The chief crop in the vegetable garden is the potato.

On the path back to the lighthouse we walk between bushes of Wild Buckwheat (*Eriogonum fasciculatum*). The vine of Wild Cucumber or Chilicothe (*Echinocystis macrocarpa*) has wound itself among the low growing shrubs. The fruit of the cucumber is large and prickly. Inside are lacy white

partitions which hold large marble-like seeds. There is also Fleabane (*Erigeron foliosus*) and the annual chrysanthemum (*Chrysanthemum coronarium*). This last is not like the cultivated chrysanthemum. It has a small flower with yellow rays. There is Wire Lettuce (*Stephanomeria exigua*).

"There is what you call the hayfever flower, Western Ragweed (*Ambrosia psilostachya*). Look out for the stem. It is very prickly. And here is the Woolly Yerba Santa (*Eriodictyon tomentosum*) standing taller than I. See the leaves are white and felty underneath, and the flowers lavender."

Returning to the lighthouse, we have another glass of lemonade and our hostess asks to be excused. She is going upstairs to help her husband fill the whale oil lamps.

FOR CHRISTMAS PILGRIMS

From our welcoming doorways
Pine branches
Reach out to you
As their cones
Give bountiful promise
Of future welcomes.

From our cheery mantels
Toyon berries
Call out to you
As their fruits
Bring glowing hillside
To gracious hearths.

From our radiant windows
Christmas trees
Hearken to you
While a Star
Bids us adore Him
With joyous hearts.

—Della Willien

THE EDITOR'S POCKET

Balboa Park should be flying some kind of an "executive in residence" flag since W. Allen Perry was made president of the American Institute of Park Executives at their Louisville convention this summer. We doff a figurative cap in the direction of Park Personality Perry's office at the end of the bridge.

Don't look now, but it's creeping up on us. In another fifty years we hope the Floral Association will wear its century-old mantle as gracefully as does the Point Loma Lighthouse. We need a Garden Center long before that, though.

Frank Quintana has the unusual faculty of translating chemistry into a language we can begin to understand. We are proud to have him on our staff. His articles are not only interesting, they are stimulating.

Aren't Lippitt's Leaves a literary treat! In 1949 when Dorothy Abbott was president she persuaded Marion Lippitt to favor our magazine. For six years she has observed for us the good things of life. Hers is the voice that has made us go out in the garden and just sit . . . just sense our blessings. That is why we plant a garden, is it not? Have you thought to tell the author how much you enjoy her lines?

Space is so limited in these pages that we try to take thought only for today and tomorrow. But who could resist printing an unexpected and unsolicited bouquet, all done up in nice words by that observing observer, B. Irwin. Ladies of the forty-seventh fall flower show, take a bow and curtsy to

the letter-writer. Let's get busy and push the circulation so we can bring you more of these good things.

It must be the home-comings at Thanksgiving that make us pause to think on our *California Garden* friends. Ada Perry has long been a contributor to our columns, but did you know she was editor in 1947? The kernels of practical garden wisdom presented in the word-shells of Chores, set me to reading the ads again so when I "shop early" I can patronize those substantial firms who are our financial backbone. Tell them we appreciate, as well as buy their products.

Ada McLouth, who recently retired from the Government Reference Library at the Civic Center, also began giving us tips on worth-while books, six years ago. She is as quiet as a book herself, but wears as well and is as full of fun.

Get in tune with the holiday season by attending the Christmas Tour on December third and fourth. It is all-new, homes, decorators and ideas. And now, Merry Christmas from the staff who hope your stocking is full of books and all the garden treasures your green-thumb hands can hold.

A. M. C.

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Leaves from *The Observer's Notebook*

MARION ALMY LIPPITT

Wondering how I could attract Henry's attention, I chanced this remark, "Within a stone's throw of us are perfect examples of each kind."

Mystified, Henry looked up from his book. "Kinds of what?"

"Holly," I replied complacently.

Henry registered resignation by slipping his finger into his book to mark the place. He waited for me to give forth information and observations. His action said plainly, "I've been here before."

I saw I had achieved one of those rare moments—Henry listening. Ordinarily he has too many projects afoot to listen long. However, when he does he gives you his undivided attention.

"You certainly do listen sweet," I remarked.

Evidently I had spent too much time just thinking for Henry leaned over, patted my hand and said, "Remember? We were talking about holly."

"Well," I launched forth, "I was thinking of how blessed we are to have perfect examples of the two kinds of Christmas holly so close to us. The Toyon or California holly across the road at the Pfefferkorns makes a decorative note by summer or winter. In the summer it is fifteen feet of feathery drifted snow. In winter its generous clusters of red berries flaunt their note of gaiety in the Christmas landscape."

"By Toyon or California holly I presume you mean *Heteromeles* (*Photinia*) *arbutifolia*."

Before I could start another sen-

tence Henry continued, "You know, don't you, *Heteromeles arbutifolia* likes sun and partial shade, prefers manure fertilizer and must have a light well-drained soil?"

"No," I retorted. "I did not know any of that. But I do know that a few years ago the Pfefferkorn bush made neighborhood history. One day Mounsey Pfefferkorn stood and gazed with pride at his carefully tended Toyon bush loaded with berries. He walked into his back garden to work. Later when he returned he blinked in disbelief. In his absence a super-colossal flock of cedar waxwings swooped down and in half an hour had stripped completely that proud bush of all its red berries!"

"Life's glories here . . ." began Henry.

"Cliché . . . are fleeting," I finished and then added, "I can tell you of our other perfect specimen. It is an English holly tree beside Mrs. Percy Goodwin's front door."

"And do you know its name is *Ilex aquifolium*?" asked Henry. He rescued a strayed tennis ball from underneath the sofa and bounced it twice as emphasis to his "*Ilex aquifolium*" before he added, "And do you also know that you must plant both a male and female tree if you are to have berries?"

Not to act surprised at Henry's accuracy I replied, "I do," as positively as if I were participating in a marriage ceremony.

"No, I did not know that either.

But I do know that Mrs. Goodwin has two trees because it thrills me every time I look at the big one's fifteen feet of conical shape, dark green leaves, and tidy clusters of red berries. English holly expresses to me a restricted majesty; California holly a cordial freedom."

"I thought English holly did not do well in Southern California?"

Henry looked really inquiring rather than politely conversational, so I answered him, "Ordinarily it does not do well, but northern exposure, plenty of water and good drainage, added to a protected spot has evidently overcome other handicaps."

With his Americanism showing like a girl's unruly slip, Henry said, "California holly, on the other hand, thrives on handicaps. It is a native shrub that will survive prolonged droughts. It rewards its planter far beyond the care involved in its culture. I am still carrying a torch for a Toyon in every California garden. It also makes a splendid hedge."

Feeling that the holly question was closed, I cast about for a change of subject and spied the open piano. Going over to it I softly played Christmas carols for some time, ending with:

"Deck the halls with boughs of holly.

Tra-la-la-la-la-la!

'Tis the season to be jolly."

I glanced over to get an approving nod from Henry and found him fast asleep!

An APPRECIATION of the FALL FLOWER ARRANGEMENT SHOW

BEATRICE IRWIN

On October 22 and 23, in the airy Floral Building in Balboa Park, the Floral Association held its annual Fall Flower Arrangement Show. The offerings were displayed with unusual variety and charm, and the whole exhibit registered higher standards and a greater originality of outlook than that of last year.

Several tables laid out with fine linens and ceramics gave the scene an hospitable touch that was welcoming. Among these, one, labeled "1920," was notable for a display of lavender and gold "mums" combined with a Royal Worcester tea-service, in the same tones, reminding one of the elegant social functions of that leisured era. Contrasting this arrangement of formal sophistication, was the table, "Driftwood," striking in its contemporary simplicity, bold color scheme, and flowing rhythms of grey driftwood punctuated by glowing begonias and

beeswax candles.

More conventional arrangements brought dahlias and hydrangeas into prominence, notable chiefly for their size and grandiose coloring. In agreeable contrast to these were a number of desert compositions, featuring dried leaves, grasses and berries, and a Balinese arrangement, composed of a pyramid of green pineapple guavas, wreathed with Natal plums and the scarlet blooms of the terrestrial orchid. This was an outstanding contribution to the group.

Among the more strictly floral offerings, one paused long before a dramatic treatment of beautiful banana blossoms combined with dried coconut palm buds. Not far off, white driftwood supporting pink azaleas against a background of a silver tray, suggested luxury. Another striking item was a wooden figure of Saint Francis standing on a glowing redwood base and accompanied by a bou-

quet of choicest golden tea roses, symbolic of wisdom. This ethical touch sounded an individual note. Nor were several other rose offerings to be ignored, for the sheer beauty of blossoms.

Advancing with reluctance to the exit of this show, one was arrested by a flaming cascade of shaded rose tuberous begonia blooms pouring forth from a cornucopia, formed of tiny white chrysanthemums, onto a bed of palest green net. The complex and exotic appeal of this arrangement, combined with the perfection of its flowers, was a final souvenir to be treasured.

As one emerged onto the balcony entrance of the building gay with gold and purple potted "mums," grown in Balboa Park, one congratulated both the Park and the members of the San Diego Floral Association for their memorable forty-seventh annual Festival.

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Azalea Petal Blight

ROBERT D. RAABE AND RICHARD H. SCIARONI

A fungus disease of azaleas — and closely related plants — is becoming widespread in nurseries of the San Francisco Bay region.

Known as flower blight, petal blight, and Ovulinia flower blight, the disease first appeared in the Los Angeles area in 1940 and has spread to other azalea-producing areas in the state. California's azalea industry — which approaches two million dollars in value — has seen a marked increase in the use of azaleas for greenhouse forcing and outdoor planting. Consequently there is great concern among nurserymen and gardeners that the disease will become established in private gardens, as well as in nurseries.

The petal-blight disease is caused by a fungus which attacks only the flowers of azaleas and such closely related plants as rhododendrons. The disease first appears on the petals as small, round spots that rapidly enlarge to form irregular blotches until eventually the whole flower collapses. The spots on white-flowered varieties are a faded tan. The infected tissues become soft and mushy and after the flowers collapse, they tend to cling to the twigs and leaves. Occasionally, a flower infected in the bud stage will collapse without opening, as shown in the photograph.

In the collapsed flowers, small black disc-shaped sclerotia—hardened fungus tissue—are formed. These sclerotia are the resting bodies of the fungus and carry it through the period when azaleas are not in flower.



Healthy azalea flower, upper left. Remaining flowers show varying stages of collapse as a result of infection by the azalea petal blight fungus.

The resting bodies fall to the ground with the infected flowers and remain in the soil until the azaleas begin to bloom the following season. At that time they germinate to produce small cup-shaped structures in which spores are produced. The spores are forcibly shot into the air and are carried by wind to the petals of the azalea blooms. There, in the presence of moisture, these spores germinate and infect the petals. As the fungus develops in the petals, it produces another type of spore which is important in the secondary spread of the disease. These spores may be carried by rain, splashing water, or certain insects—principally bumblebees—to other flowers where they will initiate new infections.

Cool, rainy conditions are favorable for disease development, especially on plants grown under lath where the flowers do not dry rapidly.

Control under such conditions is quite difficult and is made more so because of the rapid succession of bloom. Spraying the plants three times a week with Parzate or Dithane Z-78—zinc ethylene bis dithiocarbamate—at the rate of 12 ounces to 100 gallons of water plus one to two ounces of spreader-sticker, aids in holding the disease in check. Application of sprays during the cooler part of the day also helps to minimize injury. In addition, picking and destroying the infected flowers reduces the possibility of carryover of sclerotia in the soil.

GERARD and SANDS

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In addition to spraying plants and removing diseased blossoms, recent tests have shown that ground sprays of Fermate—ferric dimethyl dithiocarbamate—at the rate of six pounds per 1,000 square feet of area have helped to prevent the formation of the shooting spore stage. This material—with a spreader-sticker—should be applied just before flowering time. Removing and replacing the old mulch or covering it with new mulching material will help to prevent the formation of the shooting spore stage.

Watering so that the flowers are not splashed is another precaution. Overhead watering must be avoided.

Even where the fungus is established, disease-free plants can be maintained when the plants are taken into the greenhouse for forcing. The first step is to remove from the plants all flowers and buds beginning to show their natural color. Removal and replacement of the surface litter help eliminate the shooting spore stage.

The most important control in

the greenhouse is to reduce the humidity. The spores responsible for the secondary spread are extremely susceptible to dryness, and merely lowering the humidity to only 80% or 85% is enough to give a sure control of the disease.

The best control is to prevent the entrance of the fungus into a planting. Because the fungus is found only on the flowers or as resting bodies in the soil, new plants should not be brought in when in flower or if there is any color in the buds. Bringing in only bare-rooted plants will eliminate the soil as a source of the fungus.

Robert D. Raabe is Assistant Professor of Plant pathology, University of California, Davis.

Richard H. Sciaroni is Farm Advisor, San Mateo County, University of California.

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Books for Christmas

ADA McLOUTH

Of making of books there is happily no end. Each spring, each fall, bring a spate of books about our green environments. Perhaps someone you know is wailing "Nobody ever gives me a book." Lovely Christmas checks or crisp green bills might be earmarked for books. Books outlast the potted plants which may not survive the holidays.

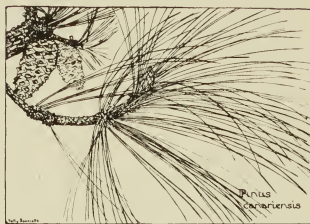
Books are view windows. Through them we look out to the shadows on the lawn, the glimmer of white flowers at night, northern woods and tropical jungles, their fragrances surmised. We feel heat, cold, rain and sunshine.

* * *

THE TROPICAL RAIN FOREST: AN ECOLOGICAL STUDY, by Paul Westmacott Richards. *Cambridge, at the University Press*, 1952. \$12.50.

The author is Professor of Botany, University College of North Wales, formerly Fellow of Trinity College, Cambridge. The book was planned "to interest . . . anyone who is concerned with the rain forest as a plant community or an environment." He tried to make the text as self-explanatory as possible and to avoid unnecessary technical terms. Nevertheless a glossary would be of use for words such as hydrosere, xerosere, and mesophytic. Understanding had to be derived from context. For the general reader it is hard going but rewarding.

Here is all the paraphernalia of a definite treatise, footnotes, exhaustive bibliography and index, many photographs and particular-



ly interesting profile diagrams to indicate the different levels of growth or "stories" in typical rain forecasts. A scholarly work in the fields of botany and ecology, it has appeal for anyone interested in our green environments and their fascinating variations from tropics to tundra. This book opens windows into the green gloom from which come many of the tropical foliage plants for which there is a growing vogue, as well as orchids and begonias. In those shadows many of our common favorites such as periwinkle, daisy, violet, are represented by tree-like growths.

* * *

HOLIDAY FLOWER ARRANGEMENTS, edited by Emma H. Cyphers. *New York, Hearstside Press*, 1954. \$2.95.

The novel feature of this book is indicated by the title. There are separate chapters for Thanksgiving, Christmas, Easter. One chapter takes up the other holidays starting with New Year's; another, lesser holidays and gay occasions. The arrangements emphasize the use of figurines and a great variety of accessories as well as of materials. Included are lists of wedding anniversary gifts, flowers of the month, and State flowers.

HOUSE PLANTS FOR EVERY WINDOW, by Dorothy H. Jenkins and Helen Van Pelt Wilson. *New York, M. Barrows & Co.* 1954. \$2.95.

First published in 1944 under the title **ENJOY YOUR HOUSE PLANTS**, this book went through eight printings before it was revised and reissued under the new title. The authors are well-known for their many books on various garden subjects and uses of plants in decoration. As the title indicates, they have emphasized grouping of plants to form gardens in windows by the use of plant stands, glass shelves and brackets. The result should be "no collection of oddments" but a designed effect characterized by restraint and good taste in the selection of materials. There is a very practical text accompanied by useful lists: a calendar of chores by month; sources of materials; glossary; list of the plants shown in the pictures. There are eight pages of color photographs, fifteen of black and white, besides drawings by Joseph Schultz.

* * *

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LAUGHTER ON THE STAIRS, by Beverly Nichols, *with drawings by William McLaren*. N.Y., Dutton, 1954. \$3.75.

In this book Beverly Nichols continues the story of his occupancy of Merry Hall. He treats more of the interior of the Georgian mansion than of its garden. However, B. N. is always dashing out to pick a few flowers and indoors to arrange them. Woven into the tale of how he furnished Merry Hall are characters familiar to readers of his other books. Each incident is a good story though some are more than a trifle silly. The most hilarious chapters deal with the village flower show in his characteristically spiteful manner. Spiteful about women, he is never spiteful about plants and still endorses the geranium: "Never trust a man or woman who is not passionately devoted to geraniums." To read Beverly Nichols on gardening is a pleasant habit for all who seek as he does "the four L's of gardening: loam, light, love, luck."

* * *

RINEHART'S GARDEN LIBRARY. W. W. Goodpasture, General Editor. N.Y. Rinehart & Co.

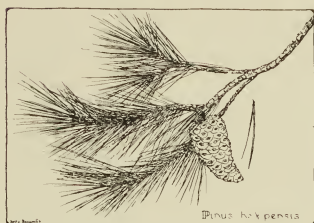
Especially suited to the younger or beginning gardener, eight attractive handy manuals of less than 100 pages each, priced at \$1.50, resemble little valentines with their washable fabricoid cov-

ers, each cover bearing decal-like pictures of flowers or other garden subjects treated. They are light to handle, neat to shelve, and each is limited in scope to a selection of the most worthy plants in a group. Each volume gives general instruction as to culture, layout, etc., in a particular plant group and follows with specific instructions for a dozen or so selected favorites. The material is admirably condensed, in the current fashion for short sentences, simple language; is illustrated by line drawings, outlines, maps, as needed.

* * *

LANDSCAPING YOUR OWN HOME, by Alice L. Dustan. New York, MacMillan, 1955. \$3.95.

Miss Dustan, though a fully qualified garden planner, has sympathy for owners who wish to design and plant their own properties. Her book is a splendid example of coordination of text with lists, diagrams, photographs. A number of photographs show sites before and after planting. At the end of each chapter is an outline of procedures to follow to accomplish results. The author, well known as garden editor of magazines and newspaper, is now in private practice. She has worked out many problems with the use of woodland trees and native plants. There is a good chapter on ground covers. The work she has done is chiefly along the Eastern seaboard, in settings quite different from Southern California. It arouses nostalgia for retiring forest flowers under tall trees, the crispness of arbutus under the snow.



FLOWERS IN GLASS, edited by Julia S. Berrall. *N.Y. and London, The Studio Publications, in association with Thomas Y. Crowell Co. 1954. \$5.00.*

Mrs. Berrall contends that the glass container presents a greater challenge to the flower arranger than the opaque container. The photographs which make up the book, with introduction by the editor, are accompanied by biographical notes about the experts who made the arrangements. There are forty-four pages of photographs, some in color. The brief notes accompanying them include useful suggestions in the technique of flower arrangement. The use of the varied plant materials in Steuben glassware is quite stimulating. A formula for skeletonizing leaves is given.

* * *

BURRAGE ON VEGETABLES, by Albert C. Burrage. *N.Y. Van Nostrand, 1954. \$4.50.*

In his foreword Richardson Wright calls the author a "gastro-nomic gardener," one who gardens for the "delight of the palate," which the author makes perfectly clear himself. He gives instructions for cooking beans so "no one will leave a single bean on the plate." The writing is most informal and personal. He reports in detail, with illustrations and tables, methods and results obtained at this farm.

"GARDENS ARE FOR PEOPLE," by Thomas D. Church (*Reinhold, 248 pp. \$10*) is reviewed here by a member of the *American Institute of Architects, San Diego*:

Sim Bruce Richards.

In his new book, "Gardens Are for People," Thomas Church proves himself the most intelligently articulate practitioner of the arts I've come across. Modestly, he calls the book "A garden tour, with some comment in passing." Of landscaping, he promises "no mysterious 'musts', no set rules . . . it is not complex and difficult art . . . it is logical, down-to-earth." And there you have what is evidently a thumbnail portrait of the artist.

At first reading (incidentally I couldn't lay it down) Mr. Church rather makes his point, and one is convinced that landscaping is nei-

ther complex nor difficult. The second reading (try it yourself) left me a little doubtful as to the lack of complexity or difficulty as promised. The third infectious reading stripped me of even the courage to prune a ceanothus without a Church tenderly watching over my shoulder.

Albeit bolstered with mouth-watering photographs of his work, the text stands quite alone, peppered with salty and personal remarks about every aspect of gardening. Obviously a man-of-the-soil, Mr. Church comes close to poetry in his thinking and writing.

The quotations from rare books on the subject serve to point up how long man has been intimately concerned with the setting for his home and his garden.

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JANET RICHARDS

From William T. Drysdale of Riverside, California, we were happy to have the following:

"I'm sure your readers will appreciate your calling to their attention a fine new book from India, published by the Natural History Society of Bombay, titled, Some Beautiful Indian Climbers and Shrubs, by N. L. Bar and M. V. Razada and priced at LI-18-0 plus 3/s postage.

The book is quite well done. There are 31 colored plates (some done in England) with 99 black and white photos plus 154 text figures. Most of the plants are grown in California.

On bauhinia, for instance, there are 12 pages . . . some readers might prefer the eight pages on bougainvillea or 25 on passiflora. It is a very desirable book for anyone interested in flowering shrubs, vines, and small trees."

* * *

LITTERBUGS

Mrs. Sheldon Thacher of La Mesa who was chairman of the Beautification Committee for the Allied Garden Clubs tells us that windshield stickers "Don't Be a Litterbug" about 5 inches in diameter may be obtained by writing the National Council of Books, Box 4298, Philadelphia 44, Pa. Send \$3.00 for 100.

LESTER ROWNTREE

Persons interested in California Natives still cherish their copies of "Hardy Californians" (MacMillan 1936) and "Flowering Shrubs of California" (Stanford 1939) both written by Lester Rowntree. This summer in Carmel, we learned that, in a series of fires, her books filled with notes and her entire collection of seeds were destroyed. This represented material gathered over years of searching throughout California. She turned therefore to writing books for children since her grandsons had been interested in her kind of expedition.

Just published by Viking is "Little Turkey" laid in Northern California. "Ronnie" (1952 Viking) lives in the mountains and "Ronnie and Don" (1953 Viking) explore the Southern California desert. All are for children from 8 to 12 who enjoy nature.

* * *

BONSAI

Mrs. Ralph Wallace of Point Loma pointed out a wonderful book on the subject of Japanese Dwarf trees. Write the Brooklyn Botanic Garden, New York, for the Autumn 1953 publication (Vol. 9 No. 3) Dwarfed Potted Trees, Bonsai of Japan, \$1.00. It is written by Japanese artists and well illustrated with photographs.

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Humus

FRANK QUINTANA

The early Romans used the word, humus, in the sense of the whole of the soil. Since then, it has been used in a wide variety of ways to describe certain fractions of the soil. The humus content of mineral soils will run from one to ten per cent of the total soil sample, while peat soils contain ninety to ninety-nine per cent. For hundreds of years scientists have subjected humus to investigations, analysis, classifications, and heaven knows what else, in number exceeded only by the theories evolved regarding it. Some authors feel that less emphasis should be placed upon the chemical identification of the material and more on learning how humus performs its many services in the cycle of plant life.

There appears to be no easy way to define humus. It is a dark-colored (usually), amorphous, colloidal substance that apparently is the end-product of all the plants, animals and microbes that have eaten and digested each other until nothing more can be got out of what is left. Humus is not a specific or definite substance, but rather a state of matter in continuing flux: even as it is disappearing through the agency of chemical reactions in the soil, it is being formed by the activity of

living organisms. Humus is the summation of all of the living activities of the soil, and as long as these continue uninterrupted or unchanged, the nature of the end-product will remain the same. Thus, the character of the humus derived from any soil supporting a permanent vegetation does not vary with regard to time.

Humus is resistant to further microbial attack. For the most part, soil micro-organisms ignore it. Yet, in mineral soils, it disappears at a rate about equivalent to its formation. Were this not so, humus would tend to accumulate to the point where we would wonder how to get rid of it. So far there is no complete understanding of how humus disappears, but since the soil microbes do not appear to be responsible, it is believed to be a chemical oxidation, probably catalyzed by the iron present in all humus.

It would seem logical that the humus from different soils would have different characters. Linnaeus (1707-1785) established a soil classification similar to that of his plants; *humus dasdalea* (garden soil), *humus ruralis* (field soil), *humus damascena* (clay soil), and so on. Actually when the humus of any soil is isolated in "pure" form from its mineral content

(and unhumified organics), it is scarcely distinguishable from humus similarly obtained from any other soil type. The method of separation, discovered around 1805, is still used today. The soil sample is extracted with a solution of alkali, and the humus, which dissolves in it, is then precipitated by the addition of the acid, which neutralizes the alkali. The solubility of humus in alkali, (and the fact of its precipitation by acid) gave rise to the belief that humus was an acid, and the term, "humic acid" was coined. The material so obtained is insoluble in water, but when treated with sodium or potassium hydroxide, forms salts of "humic acid" (sodium or potassium humate), which are entirely soluble in water. The formation of these soluble salts may explain why humus is washed out (leached) of the surface layers of alkaline soils.

By the further extraction of the "humic acid" with various solvents, a great variety of chemical substances have been separated and identified as comprising the humus fraction of the soil. For the sake of simplicity, these have been divided into five groups.

1. Fats, waxes and resins, and substances soluble in ether, alcohol, and other organic solvents.

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This group comprises the least portion of the various humus constituents.

2. Carbohydrates and related substances. In this group are included starches, sugars, cellulose, pentosans and similar materials originating from both plants and microbes.

3. Organic acids. These range from simple compounds, like oxalic acid, to very complex substances. Compounds of this acidic character tend to accumulate in peat.

4. Proteins and their derivatives. This includes the true proteins as well as the amino acids, amines and other nitrogenous complexes.

5. Lignins and their derivatives. This group comprises not only the true lignins from higher green plants, but also lignin-like complexes from mosses, algae and fungi.

The substances in the first four groups are probably familiar to the reader. Lignin may be a newcomer that needs some explanation. Lignin occurs in all plants, particularly in the stems. It is a "resinous cement," synthesized by the growing plant, that binds together the tiny fibers of cellulose and thereby provides the stiffness needed to hold the plant upright. In the manufacture of woodpulp (cellulose), the lignin is removed from the cellulose, and the final product is a fluffy cottony substance that, by itself, has no structural strength. When each of the billions of tiny fibers is cemented to its neighbor by the action of the cementing agent, lignin, the resultant structural strength is remarkable. Today's fiber glass plastics are a man-made variation of the original idea in nature. Tiny fibers of glass are cemented together by the action of *synthetic* plastic resins, and the same wonderful structural strength is produced. Lignin is resistant to decomposition and therefore a logical remainder in humification processes.

How these five groups of substances fit together to make up humus or "humic acid" is an absorbing jig-saw puzzle. The completed puzzle is in front of the scientists, but they are working in the dark and blindfolded. When they get out a piece, they have to stop and identify it and then try to fit it back into a picture they have never seen. But the work continues to progress. Presently it is believed that "humic acid" is a lignin-protein complex. A humus-like substance, with many of the properties of the natural material

has been synthesized by combining lignin and protein.

The remarkable circumstance of humus is not so much its chemical nature, as the many-faceted service it renders to plant life. It serves as a reservoir and a source of nutrients for plant growth; it modifies the physical and chemical nature of the soil in several ways; it regulates and determines the character of the microbial population of the soil and affects the activities of the microbes. It is a storehouse of carbon and nitrogen in particular, and to a lesser extent, of phosphorous, calcium, iron, manganese and other mineral elements. It absorbs certain toxic materials that would otherwise be injurious to plant growth. It increases the moisture-holding capacity of the soil by reason of its colloidal nature and its ability to swell. It influences soil temperature and soil structure, and directly or indirectly affects numerous other reactions of importance to plant growth. Its importance cannot be overemphasized in normal gardening procedures.

Your garden will most certainly be benefited by regular applications of bulky organic materials, such as leafmold, peatmoss, manures, wood shavings or chips or even regular garden trash, such as prunings, spent annuals and so on. Finished composts are helpful, but the soil derives greater benefit when the processes of decomposition are allowed to go forward in the beds and borders, rather than in the compost bin. The untidy clutter of leaves and other garden debris might be concealed with a thin layer of stable manure.



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Garden Chores

By ADA PERRY

Let us speak of watering plants, feeding plants and not taking them to a plant hospital. The people down at the nursery where I work think their favorite insecticide maker has come across with a real answer to chlorosis, bud-dropping and do-nothingness. This new concoction contains nitrogen from urea, iron and zinc chelates and trace elements, potash and phosphorus of course, and a penetrating property.

Now this is worthy material with which to work. The chelated iron and zinc alone are answers to any number of gardener's prayers. The "zoop" is applied to foliage, as a foliage feeder, and then to the soil beneath and watered into this soil. Being conservative, we are inclined to recommend the proportions of 100 to 1 every month or so, rather than 50 to 1, less often.

We only got hold of it a month ago and already we have a yard of growth on *Passiflora Pfordtii*, with four times larger foliage on the new growth. Yellowed Meyer lemon and acanthus have turned green with the glow of health. It was very intriguing to watch the maker of the fluid fingering the fine foliage on the passiflora grown by his product, plunge a hand in his pocket and buy the plant like any beginning gardener. Of course he wanted it for demonstration, but the old gardening spirit was there too.

He told us some interesting things about the product. Used on camellias, during the winter, it

made larger flowers—not more, but larger; and stopped bud drop on Pink Perfection.

But the possibilities for citrus are most exciting. Who doesn't know a yellow, unhappy citrus? And how about those rusty-chartreuse macadamias showing up here and there?

Growing plants with plain good dirt is still the high ideal but science gives the project wings to reach its goal.

Conversed with the Department of Agriculture, Gustafson speaking, on winter protection for young avocado trees. Put in four stakes several inches higher than the trees, then you stretch burlap, over like a roof, instead of around like a kimono. This bounces back the ground heat gathered in the daytime. Flip top back in the daytime, and on again at night.

Hear that dicandra is doing a good job mixed in bermuda lawns. Real close mowing knocks oxalis weed in dicandra and harms the dicandra not at all.

Discussed with a customer today the cutting back of iris foliage after blooming. Looked in *Sunset* and found there was no objection to this, provided it was the old foliage, and it was cut back half way.

Have visited Washington state since last issue and saw the most beautiful geraniums in years. And they have to save their slips and let those plants go with the frost. Saw mesembryanthemum on a bank in Portland. And silk oak in pots in a Lambert garden's planter. This same garden in Portland had fuchsias hanging from trees in redwood tubs, instead of baskets. Other fuchsias in delicate

shades were hanging in white pots. Very attractive. And "Perhaps," said a gentleman in Lambert's, "you should keep your Chinese magnolias wetter for better looking foliage."

A fine garden lasts like a fine building. Or, come to think of it, better. The old Spokesman Review building and the Sacred Heart hospital were still as I remembered them, but they did look old-fashioned.

When we found our way back to the sunken garden in Manito Park, the evergreens had tripled in size, giving it great depth, while the borders were filled with the finest of flowers, only as old as last spring. Yes, a fine garden is better than a fine building because it renews itself each spring.

In case this reaches you in November, it is the best time to trap gophers and spray deciduous plants with their first dose of trouble preventative. If I haven't said anything about bare root planting in January, it's because you know a lot about planting them, by this time, and maybe we'll say something new about them next time. If not, the same old story is packed with thrills.

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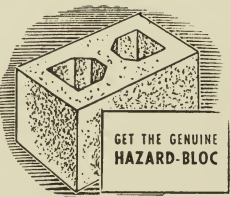
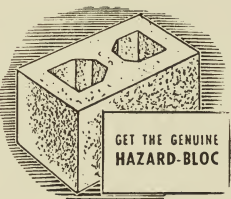
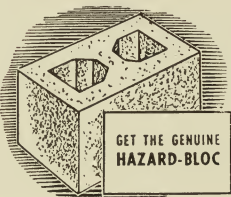
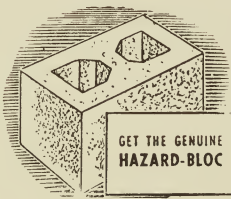
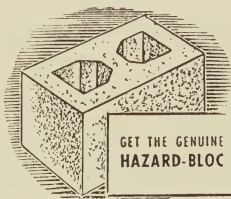
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